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ABSTRACT

This paper is a response to Michael Apple's paper, "What Postmodernists Forget: Cultural Capital and Official Knowledge." The paper advocates Michael's identification of the current dangers and processes of the growth of new right ideologies in the development of subjectivity, society, and education. The differences in success in the education system can be explained by the differences in parents' social class background. The root causes of failure in mathematics classrooms such as the teaching sequence, misconceptions, imagery, and mental representation are not fundamentally what concerns constructivism but poverty, social disadvantage, low wages, poor housing, and social exclusion. The necessity of developing a theory of structure and agency in advanced capitalist societies is greatly needed. (KHR)

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Markets, Marx, Modernity and Mathematics Education. A Response to Michael Apple

by
Peter Gates

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Markets, Marx, Modernity and Mathematics Education. A Response to Michael Apple

Address given to the Second International Mathematics Education and Society Conference
Portugal, March 2000

Peter Gates
University of Nottingham

I welcomed the invitation to respond to Michael Apple, because he is one of those people that was once one of my gurus. That is not to say that he is no longer a guru, its just that I no longer have gurus. If I did, he would probably still be one. His writing usually gives me that feel good factor. You know when you read something and subliminally - or out loud - find yourself saying "Yes!" and feeling that you wished you had said that. This paper is no different for me. It is a paper representing a position that just has to be said, and said even louder. However, here I am going to respond by taking a slightly different slant to focus my torch onto a corner of the room that Michael has chosen not to bring to the fore.

I will begin by offering you some quotes and ask you to guess the author. Naturally, selective quotation is a little disingenuous, so I would invite you to read – if you can – the original text to get the full flavour – and to reconstruct what the author might have said in response to me.

> *Markets do not always increase inequality, but can sometime be the means of overcoming it…*
>
> *The left has got to get comfortable with markets, with the role of business in the creation of wealth, and the fact that private capital is essential for social investment…*
>
> *Markets have, or can have, beneficial outcomes that go beyond productive efficiency…*
>
> *If adequately regulated, market exchange is essentially peaceful…*
>
> *In addition, market relations allow free choices to be made by consumers, at least where there is competition between multiple producers. In spite of all the influence of advertising and other attempts by producers to shape tastes and needs, such choice is real…*
>
> *Markets can also favour attitudes of responsibility, since participants need to calculate the likely outcomes of what they do, whether they are producers or consumers. This factor helps explain other aspects of the liberating potential of markets…*
>
> *A successful market economy generates far greater prosperity than any rival system. In effect, there is no rival system in place any longer…*
>
> *Combined with entrepreneurial energy, a market economy is vastly more dynamic than any other type of economic system…*

I will not here respond to the claims made – it would take too long, and I might get too self-indulgent. But where do such views come from? What world do they seem to represent? Whose reality? How do we on the left respond to them? I will keep you in suspense a little longer as to

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I will begin (again) though by telling a little story. The power of stories is both the way they capture the audience, and the way they have the power to capture the insignificant, potentially overlooked events of everyday life. They can be, to borrow a phrase John Mason once used in a different context "*the grit in the oyster*".

A few weeks ago, I was waiting in the queue in my Bank, and in front of me being attended to by the cashier was an old lady who was having trouble with the procedures for paying her electricity bill from out of her account. She seemed uncomfortable, out of her depth even, unfamiliar with the procedures. The cashier told her that really she would get a much better return on her money if she changed to an account earning a higher rate of interest. "*Oh no I can't be bothered with all that dear. I'll just leave it where it is*", she replied. I just wanted to cry! However, I know that feeling.

An aunt of mine had some money in a Building Society that transformed itself into a Bank recently. The corporate transformation resulted in her getting 100 shares in the company. She "didn't want to be bothered about all that" either, and just left them .Yes you know what's coming. What was worth £1500 in April 1999, was worth £1000 in January 2000. Somehow on the day I thought they were worth £1000 and was going to suggest perhaps she sell them, they went down to £600. So here's a mathematical question. "*Who the bloody hell's got my aunt's £900 and what have they done with it?*"

Two weeks ago I went to stay with some close friends in London, and met a couple who are very nice family, nice kids – who are the same age as mine. The father used to work in the city selling debt among other things. He hated the job and found working in the city unbearable. He has since left it after 10 years and is now training to be a teacher. They own a nice, largish house in London with no mortgage. They have enough saved up in the bank for both of them to stop work for two years, they can still go on expensive holidays, and are about to send both children to private schools. Now during that weekend, I realised.... **that's** where my aunt's money went!

A few days after the bank incident, I was listening to the radio, to a piece about the problems of economic forecasting. In this programme, some eminent (bourgeois) economist was describing how there is a tendency to use psychological models and theories in economics, but these are facing a crisis. The reason is that people are not doing what they ought to be doing. Rational models are suggesting that people work to maximise their interests and gains, and do this rationally, but the punters were not playing the game. So what game were they playing? Well they interviewed a taxi-driver, who described how he has some intuitive level of income each day that he works to achieve. If he makes it faster on some days, he goes home early. Now this is contrary to rational models of economic forecasting. He ought to be utilising his potential and on busy days working longer to make up for slower days. But he was actually working longer on slower days than more busy days. While this does not help the economists, it does explain why you can never get a bloody taxi when you really are in a rush.

The taxi driver's explanation was "*Well guv, there's more to life than working hard*". At this point, you could feel the economist going into catatonic shock. "*No really he shouldn't be doing that. He should be working to maximise the utility function*!"

Yes, there is more to life; there's football. As Bill Shankley once said "*Football isn't a matter of life and death. It's much more important than that*". I think my colleague Tony Cotton has the tee-shirt. Whilst death is certain, what is less clear is whether Gillingham Football Club will ever go into the first division, or whether Manchester United will this year win the Football Association cup yet again – though this is looking more likely with each passing week, I have to say. Football IS more important than Opera, it is more intellectually demanding and more of an art form requiring

Another story. In the UK in February 2000, a medical practitioner, Dr. Harold Shipman, had just been committed to life imprisonment for the murder of 15 of his elderly female patients. He was however suspected of murdering around 150 more, by administering a lethal dose of morphine, and leaving them to die quietly in their armchairs. Now clearly he's not the sort of bloke you'd invite round to tea, especially if you were not feeling very well. Yet surely you also wouldn't invite someone responsible for hundreds of deaths through suicide resulting from the feelings of hopelessness and despair caused by losing their livelihood. Nor would you want to invite someone responsible for causing hundreds of slow uncomfortable deaths of elderly people in cold unheated rooms because you have not given them enough money to heat the room, preferring to give money to rich businessmen to stimulate the market. You wouldn't want to invite someone responsible for thousands of painful deaths by torture either would you? But while Dr. Shipman gets life imprisonment, Margaret Thatcher gets elevated to the British House of Lords and Augusto Pinochet gets sympathy. I think I'd prefer to invite the three of then for tea and let Dr Shipman get on with it.

Markets

We have gone through a great deal in the UK over the past 20 years. I can still vividly remember where I was when the results of the 1979 UK General Election came in. I was sitting in the lounge of the Provincial Governor of the Sofala province of Mo◊ambique listening to the radio. I had gone to Mo◊ambique as a "cooperante" to support FRELIMO and the people of Mo◊ambique to reconstruct their society after years of Portuguese colonialism. I was teaching the Governor, along with a group of local administrators and politicians enough mathematics to help them pass his grade 6 test. Once it was clear that Mrs. Thatcher had been elected, I put my head in my hands and said "*Oh, My God*". To which he replied – "*Perhaps you need some of us to come over and help you now*".

He was right of course– we did need a cadre of committed Marxists to work at all levels of society to struggle against the changes we were about to witness. I wish I had accepted his offer. Of all the strategies those of us on the left have been using since 1979, urban guerrilla warfare has been considerably underutilised.

Since 1979, we have witnessed dramatic change in all walks of life. Much of this – arguably the most dangerous – appears innocent. I offer the UK National Lottery – a masterpiece of ideological manipulation. I wrote a first draft of this talk on a train run by a company owned by Richard Branson – who has just teamed up with Bill Gates to bid to run our national lottery when the current contract runs out. (I just love such co-incidences!) Their plan is to run the lottery for non-commercial purposes so all money goes to good causes. Yet, this plan, devised by two of the richest men on the planet, cleverly and subversively misses the point. The national lottery is a significant example of redistribution of wealth in the UK. The poor who seek a way out of poverty spend a disproportionate amount of their income on the national lottery compared to the relatively wealthy – and the very wealthy. Then we need to look at where some of the money goes – not to support the local darts team or football team, but to opera, the Churchill family, to build a millennium dome (and thereby to architects and shareholders of building companies).

Mrs. Thatcher's greatest legacy has been to fundamentally shift much of the collective consciousness in the UK in producing a new right ideology which calls upon various sectors of society to agree to things which are clearly not on their best interest. Che Guevara clearly understood the need to work at the level of consciousness within the political struggle.

It is easy to magnify moral incentives; but to keep them effective, we must develop a

(Guevara 1965)

Michael Apple has identified quite clearly the current dangers and processes of the growth of the new right ideologies in the development of subjectivity, society and education and I want to take some of his arguments and thrusts slightly further. What we need to help us understand these developments is a theory of structure and agency in advanced capitalist societies in which most of us are located, and in the developing capitalist economies in which the rest of us are located.

I want to enlarge upon what I see as a significant tendency in the development of market discourses- that of neo-liberalism. Liberalism has a long history in arguing for support for the individual freedom. Neo-liberalism takes this into a new arena and elevates oxymoron to an art form. Neo-liberalism as portrayed by Margaret Thatcher, values the freedom of the individual, the free market, parental choice. Such a gradual development of discursive chains has changed the orientation of popular discourses, and in so doing, has managed to deflect attention away from mechanisms of domination and inequity and forms of authoritarianism.

How is this related to our meeting in a maths education conference? I will use Hugh Lauder's argument that a neo-liberal political economy will create lower educational standards (Lauder 1991, p 417). Furthermore, it favours individual freedom over democratic participation and in so doing, in favouring the pursuit of self-interest, produces socially undesirable outcomes.

Standards, quality in education and universal advancement are not part of the essential programme of the market economy. Quite the contrary – the development of capitalist relations of production (which I see as equivalent to the "*Market Economy*" or a "*low wage, low technology economy*") requires a low skill economy, where managers can keep costs down by reducing wage costs, and thereby fight to increase surplus value. This is part of the ongoing drive to counter what Karl Marx identified as the tendency for the rate of profit to fall. In such an economy, profits can be made out of cheap labour. Such a ***low wage, low technology economy*** can be contrasted with a ***high wage, high technology economy*** requiring high levels of skill and autonomy. In such an economy, would be needed a range of skills at all levels requiring a strong sense of equality of opportunity. In addition, a ***democratic economy*** requires a universally high level of skills so that all individuals may contribute and participate in a democratic society. In addition, a strong sense of equality and equity is required in order to ensure that previously and traditionally silenced voices may be heard in order to participate fully in society.

So, what are we going for? I don't believe we can challenge the *rhetoric* of the market economy without challenging the *legitimacy* and *desirability* of the market economy. I put up my stall in the democratic socialist economy and all the implications that has.

A bit on modernity

You will probably have noticed by now that I am likely to have little truck with argument that we live in an age of postmodernity, and maintain that we need to quite pull back urgently from the postmodern abyss. There are arguments that in this age of global markets, mass communications, changing employment practices and rising living standards, we live in an age where capitalism as described and conceptualised by Marxists has fundamentally obliterated itself. For Francis Fukuyama we have reached the "*end of history*" with the triumph of liberal democracy (Fukuyama 1992, p 338). What I do need to do, since I have been arguing for a political meta-narrative that postmodernism would deny, is to give my rationale for rejecting arguments for postmodernity. Alex Callinicos describes how, because the characteristic structures of capitalism have not undergone any

present as the beginning of a new era of unprecedented fluidity, social mobility, and individual choice is "*historically dubious*" (Callinicos 1999, p 260).

> *Has the dialectic of modernity been transcended thanks to our entry into a postmodern condition constituted by the collapse of the 'grand narratives' which offer comprehensive interpretations of the totality of human history? The short answer is 'No'.*
>
> (Callinicos 1999, p 296)

Michael Apple, whose work is located within critical education, holds a similar position.

> *Capitalism may be being transformed, but it still exists as a massive structuring force. Many people may not think and act in ways predicted by class essentializing theories, but this does not mean the racial, sexual and class divisions of paid and unpaid labor have disappeared nor does it mean that relations of production (both economic and cultural since how we think about these two may be different) can be ignored if we do it in non essentializing ways.*
>
> (Apple 1997, p 599)

Recent claims of postmodernism are purporting the obsolescence of essentialist or totalising theories of society and that instead we must content ourselves with localised theories. But localised theories smack somewhat of the individualism of liberalism, as Peter McLaren puts it.

> *As a Marxist, I have some problems with postmodern social theory - not all of its manifestations but in many of them. Often mistaking their radical posturing and flamboyant marginality for a transgressive politics, the fashionable apostasy of the postmodernists offers a sexy smoke screen for a sell-out liberal humanism.*
>
> (McLaren 1995, p 18)

Postmodern social theory, and in particular postmodern educational theory, does little to challenge capitalist social relations. What postmodern approaches inform us of, and help us with, are the different discourses, different variables and interpretations, different readings of texts. What postmodern social theory does less well is to help us see what binds it all together. What remains the same? Jobs, money, poverty, unemployment, social disadvantage, educational failure. Postmodern social theory is blind to the political nature of many events. Relating this to education, Michael Apple claims, "*too little focus has been placed on the political economy of what knowledge is considered high status in this and similar societies*" (Apple 1997, p 598).

> *Moreover much of what is written is support of the idea that we live in a postmodern epoch seems to me of small calibre intellectually, usually superficial, often ignorant, sometimes incoherent. ... I seek here not simply to demonstrate the intellectual inadequacy of postmodernism understood as the claim that we are entering a postmodern epoch, but to set it in a historical context. Postmodernism, then, is best seen as a symptom.*
>
> (Callinicos 1989, pps 5 - 6)

Furthermore, it is argued that postmodernism is less about the form of society, and more about

> *The discourse of postmodernism is best seen as the product of a socially mobile intelligentsia in a climate dominated by the retreat of the Western labour movement and the 'overconsumptionist' dynamic of capitalism in the Reagan-Thatcher era. From this perspective the term 'postmodern' would seem to be a floating signifier by means of which this intelligentsia has sought to articulate its political disillusionment and its aspirations to a consumption-oriented lifestyle. The difficulties involved in identifying a referent for this term are therefore beside the point, since talk about postmodernism turns out to be less about the world than the expression of a particular generation's sense of an ending.*
>
> (Callinicos 1990, p 115)

That it is a nihilistic perspective, Alex Callinicos leaves us in no doubt.

> *Unless we work towards the kind of revolutionary change which would allow the realisation of this potential in a transformed world, there is little left for us to do except, like Lyotard and Baudrillard, to fiddle while Rome burns.*
>
> (Callinicos 1989, p 174)

I do feel passionately that there is something else we can do and I reject arguments that we are in a post-modern era. The imperative here is the need to distinguish as clearly and coherently as we can those aspects of the debate over postmodernism that are supportive of social justice, emancipation and democracy from those which are more individualising and fragmentary, marginalising or even rejecting the struggle for equality and freedom. My position is to base my theoretical framework on a model of social organisation that takes the underlying relations of production as a central force. This means not assuming that individuals are fragmented, constituted by discourses, but rather are embedded in a stratified society and consequently reflect this social structure in their cognitive structures and interpersonal relations. In doing this though, we can adopt the position that the construction of one's individual social frameworks are likely to be somewhat fragmented due to the complex nature of the society we are bought up in. What is necessary to synchronise structure and agency is first the recognition that individuals can and do assume some differential positioning, where their engagements with the professional discourses of the field may shift. Second, rather than accept this shifting as demonstrating the primary role of discourse in the construction of self, we need to see it as requiring an exploration of some deeper consistency whose flexibility may be explained by one being located within differential power structures and the concomitant social relations and inter-personal relations.

What neo-liberalism does cleverly is to draw on liberalism's Achilles heel – the valuing of individual liberty – another oxymoron. There is some assumption that not only is individual liberty possible as a characteristic, but that it is strategically possible. Liberalism achieves this through the assumption of the universality of shared values, such as equality, equity, caring, sharing. These are not value free values, but are tied closely to underlying social assumptions. I would argue that they are the values of a particular tendency and tradition – that of the left. Alternatively, we have values of struggle, competition, rational self-interest, and freedom. Which are the views of the right. I ought to apologise to those of you who find such binary assertions painful, quaint, naïve or politically or intellectually ignorant. It is I feel a failure to recognize such dialectical tendencies, which results in a lack of clarity over how we move forward to construct what Michael calls,

> *defensible, articulate and fully fleshed out alternative progressive policies and practices in curriculum, teaching and evaluation.*

A bit on counter-hegemony

Arthur Halsey has shown that in the UK, differences in success in the education system (particularly in our divisive separation between state and private schools) can largely be explained by the differences in parents' social class background. We can extend this further, the root causes of failure in mathematics classrooms is not fundamentally the teaching sequence, misconceptions, imagery, mental representation and other constructivist concerns, but it is poverty, social disadvantage, low wages, poor housing, social exclusion, limited opportunities – I and each of you could go on. But of course, this is counter-hegemonic. It is almost a heresy. We hear neo-liberal pronouncements that working class children can achieve just as much as children from more affluent families. This is a particular favorite argument of Chris Woodhead our discredited Chief Inspector of Schools – who incidentally earns in excess of £120,000 per year. Well he would say that wouldn't he. The problem is, it's nonsense. Is he wrong or just mistaken? How might we convince him otherwise? More importantly, how do we convince all the others?

There seems to me to be an issue we need to begin to clarify – the distinction between hegemony and false consciousness. "*False consciousness*" of course is not a phrase or concept ever used by Marx or Engels, but it is one that is still being accepted by those who ought to know better. It is a thing of the past.

One argument counter to this 'false consciousness' perspective is that it is empirically false. It can be easily seen that the dominant ideology is not universally accepted by other dominated social groups. The existence of resistance, subversion, working class patriotism and so on can be used to water down the view that the state imposes a dominant ideology onto unsuspecting workers. There is little now to gain from considering the 'false consciousness' notion, as Stuart Hall forcefully argues on two counts.

> *It is a highly unstable theory about the world which has to assume that vast numbers of ordinary people, mentally equipped in much the same way as you or I, can simply be thoroughly duped into misrecognizing entirely where their interests lie. Even less acceptable is the position that, whereas "they" - the masses - are the dupes of history, "we" - the privileged - are somehow without a trace of illusion and can see right though into the truth of a situation.*
>
> (Hall 1988, p 44)

Consequently, the false consciousness notion that ideology somehow represents distorted views of reality is not one that holds much credibility. Furthermore, it doesn't really help us to understand the mechanisms of operation or the locus of control in social domination. Hegemony however can help us to explore the way in which different discourses are organised, and how some are favoured more than others, and how this differential favoring works in support of some positions rather than others.

> *Neo-liberals and conservatives have shown how important changes in commonsense are in the struggle for education.*

We will not change common sense by working within the commonsense boundaries of current conservative discourses. What we need to be now is counter-hegemonic. We need to flip the coins and create and exploit the dialectical space between inevitable tensions. I will offer three examples.

Hegemonic Position	Counter-Hegemonic Position
Homework is good, helps to reinforce work done in school, consequently raises standards and improves learning opportunities.	Homework is bad for children. 1) Pragmatically in most schools it is perfunctory unconnected to the work children are engaged in and not located in a pedagogical consideration. 2) Historically it is derived from independent boarding schools, where children had to be controlled and given something to do after the evening meal and before going to bed. 3) Socially it creates conflict in families and takes the means of control into the home implicating parent in the surveillance of the child. 4) Socially too it stops interaction between members of the family by taking up the limited time the child has in the home with the parents and siblings. 5) Homework forces further the institutionalisation of learning and education by making the home context secondary to the school context.
Working class parent don't involve themselves enough	Parents from disadvantaged background need to distance themselves from official schooling. They have nothing to gain from it in its present configuration and need to organise to change the institution rather than allow themselves to be implicated or institutionalised by it.
The National Numeracy Strategy in the UK is about raising standards	The national numeracy strategy is about reducing the gap between pupils of different social classes. It is about favouring the poor at the expense of the rich.

A bit of a manifesto

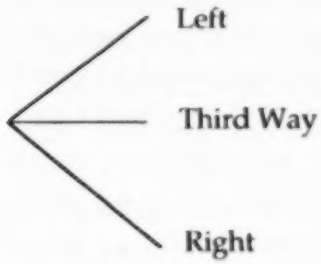
Now that's a radical strategy – a revolutionary programme. It is not going to be easy, because it requires us to accept that we are all ideological, but that ideological orientations are related to fundamental drives deriving from our social imagery and dispositions. It also requires us to begin to conceptualise fundamental theoretical orientations. "*There is nothing more ideological than declaring the demise of ideology*" [Bobbio, 1996 #788, p 3]. So, here's my ideological baggage.

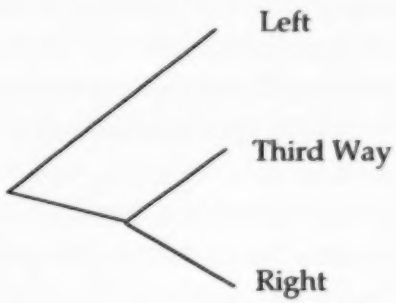
- Society is a conflict between differing interests – usually interests based upon economic distinctions and rooted in the underlying relations of production.
- The economic structure, the mode of production, is a root determinant of social life.
- We need to consider the interconnectedness of the whole social system rather than explore in isolation locations of social activity e.g. the maths classroom - what Louis Althusser calls "*structural causality*" (Althusser and Balibar 1970, pps 187 – 198).
- Life is essentially social. Cognition is essentially a social act and therefore material conditions exert a significant effect on us all. This is an approach that looks for connections between objective structures and human action.
- We need to be committed to social change.
- Educational research has to be critical and emancipatory, by analysing power relations.

A number of contributions at this conference are offering alternative perspectives; alternative

post-Marxism or third-way-ism. And there is the clue to the identity of the author of the market-friendly quotes I began with. No, it wasn't Margaret Thatcher – though it might have been. No, it wasn't Tony Blair – though it might have been. It was in fact Anthony Giddens in "*The Third Way and its Critics*" (Giddens 2000, pps 33 – 36). For Anthony Giddens and Tony Blair, the "*third way*" is beyond left and right, as if the distinction no longer made sense or had any relevance.

Norberto Bobbio however neatly puts this in its place (Bobbio 1996). He offers two alternative perspectives. On the one hand, a middle way can attempt to place itself between left and right, keeping them apart and offering an alternative, what Norberto Bobbio calls "*the included middle*". On the other hand, a middle way is an attempt to go beyond the two opposites offering a synthesis that cancels out the two opposites (what he terms "*the inclusive middle*"). He argues that "*the third way*" is an example of an inclusive middle, and is a political doctrine in search of practical politics, which eventually becomes revealed as centrist. I see it similarly but slightly differently and offer two possibilities here for locating the third way – naturally, I favour the second.





Here the third way has little in common with the first way, apart from some linguistic grunts, and derives from an attachment to the second way. I said earlier that I make no apologies for my political purity in adhering to a left/right distinction. In arguing for the continuation and the relevance of the left/right distinction, Norberto Bobbio offers us an interpretation.

> *The left has a greater tendency to reduce inequalities. We do not mean that it intends to eliminate all inequalities, or the right wishes to preserve them all, but simply that the former is more egalitarian, and the latter is more inegalitarian.*
>
> *(Bobbio 1996, p 65)*

That seems a good starting point to explore distinctions. Whose side are you on? Other maths education conferences have only interpreted the world in various ways; the point of this one, however, is to change it - is to reduce inequalities. As Michael Apple says

> *There is political and practical work that needs to be done. If we do not do it, who will?*
>
> *In our view, Apple is right when he calls for us to clarify the ideological, social and political dimensions of our efforts to initiate reform in mathematics education. Only then can we guard against the possibility that we will unknowingly foster even greater inequities.*
>
> *(Yackel and Cobb 1994, p 32)*

Our task here is to begin that theoretical and organisational process for change.

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